

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	7	malte near wedel.in.	US-PGPUB; USPAT	OR	ON	2007/03/05 15:41
S2	19	andreas near roessler.in.	US-PGPUB; USPAT	OR	ON	2007/03/05 15:43
S3	90	"sap ag".as.	US-PGPUB; USPAT	OR	ON	2007/03/05 15:43
S4	0	S3 and (undo\$4).clm.	US-PGPUB; USPAT	OR	ON	2007/03/05 15:44
S5	0	S3 and (redo\$4).clm.	US-PGPUB; USPAT	OR	ON	2007/03/05 15:44
S6	22	S3 and (control\$4).clm.	US-PGPUB; USPAT	OR	ON	2007/03/05 15:44
S7	4297	un\$1do\$4 and re\$1do\$4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/05 15:59
S8	634	S7 and browser	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/05 16:01
S9	351	S8 and focus\$4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/05 16:02
S11	50	S9 and meta\$1data	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/05 16:04
S12	34	S11 and (@pd<"20030930" or @ad<"20030930" or @prad<"20030930" or @rlad<"20030930")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/05 16:07

EAST Search History

S13	584	S8 and web	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/05 16:06
S14	115	S13 and "715".clas.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/05 16:07
S15	102	S14 and (@pd<"20030930" or @ad<"20030930" or @prad<"20030930" or @rlad<"20030930")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/06 07:44
S16	2	("20040125130").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/05 16:19
S17	10	("20030105816" "20040260974" "6044387" "6527812" "6543006").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/05 16:19
S18	2	"6041423".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/05 16:38
S19	2	"5604853".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/05 16:39
S20	2	"5481710".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/05 16:39

EAST Search History

S21	2	"5659747".pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/05 16:39
S22	97	714/19.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/06 07:38
S24	1147	717/100-103.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/06 07:44
S25	53	S24 and un\$1do\$4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/06 07:44
S26	45	S25 and (@pd<"20030930" or @ad<"20030930" or @prad<"20030930" or @rlad<"20030930")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/06 13:16
S27	12	(US-20020036660-\$ or US-20040205663-\$ or US-20040260974-\$).did. or (US-6041423-\$ or US-5604853-\$ or US-5481710-\$ or US-7003695-\$ or US-6543006-\$ or US-6527812-\$ or US-5659747-\$ or US-7036044-\$ or US-5408651-\$).did.	US-PGPUB; USPAT	OR	ON	2007/03/06 09:09
S29	0	S27 and meta	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/06 09:13

EAST Search History

S30	105	("6084598" "4881387" "4890221" "4951776" "4970641" "5231670" "5394407" "5421003" "5469550" "5479601" "5542088" "5583982" "5586312" "5604853" "5673426" "5680610" "5712436" "5712971" "5757372" "5768211" "5961633" "5966301" "5970448" "6032596" "6061059" "6081892" "6104875" "6240544" "6335727" "6941276" "6952756" "7016869" "7160042" "20030065590" "20050081105" "20060155612" "5278982" "5801938" "4364785" "4459658" "4498145" "4627541" "4627686" "4775904" "4821228" "4843669" "4856504" "4866638" "4878167" "4890175").pn.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/06 10:22
S31	2	S27 and (dependency or concurrent\$4)	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/06 11:39
S33	2	S27 and tree	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/06 12:09
S34	15	("20040054640" "20040268187" "20050102630" "5455944" "5479601" "5481710" "5519862" "5524205" "5530864" "5537526" "5583982" "5990906" "6185591" "6259446" "6757905").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/03/06 12:12
S35	16	("4723211" "4815029" "4878167" "5095421" "5170480" "5173854").PN. OR ("5481710"). URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/03/06 12:19

EAST Search History

S36	19	(US-20020036660-\$ or US-20040205663-\$ or US-20040260974-\$ or US-20040268187-\$).did. or (US-6041423-\$ or US-5604853-\$ or US-5481710-\$ or US-7003695-\$ or US-6543006-\$ or US-6527812-\$ or US-5659747-\$ or US-7036044-\$ or US-5408651-\$ or US-6757905-\$ or US-6185591-\$ or US-5990906-\$ or US-5524205-\$ or US-RE38270-\$ or US-6167455-\$).did.	US-PGPUB; USPAT	OR	ON	2007/03/06 12:24
S37	2	S36 and tree	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/06 12:24
S38	5	("5644692" "5802380" "5990906" "6026233" "6026416").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2007/03/06 13:12
S39	2262	715/530-531.ccls.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/06 13:14
S40	32	S39 and un\$1do\$4 and re\$1do\$4	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/06 13:15
S41	30	S40 and (@pd<"20030930" or @ad<"20030930" or @prad<"20030930" or @rlad<"20030930")	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/06 13:16
S42	8	S36 and server	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/06 15:19

[Subscribe \(Full Service\)](#) [Register \(Limited Service, Free\)](#) [Login](#)

Search: The ACM Digital Library The Guide

multi-level undo redo

[ACM PORTAL](#) [ACM Digital Library](#) [ACM Guide](#)

[Feedback](#) [Report a problem](#) [Satisfaction survey](#)

Terms used multi level undo redo

Found 763 of 198,310

Sort results by

 Save results to a Binder[Try an Advanced Search](#)

Display results

 Search Tips[Try this search in The ACM Guide](#) Open results in a new window

Results 1 - 20 of 200

Result page: [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [next](#)

Best 200 shown

Relevance scale

1 A temporal model for multi-level undo and redo

W. Keith Edwards, Takeo Igarashi, Anthony LaMarca, Elizabeth D. Mynatt

November 2000 **Proceedings of the 13th annual ACM symposium on User interface software and technology UIST '00****Publisher:** ACM PressFull text available: [pdf\(264.83 KB\)](#) Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)**Keywords:** Flatland, Timewarp, history management, redo, timelines, undo**2 Multi-level transaction management for complex objects: implementation, performance, parallelism**

Gerhard Weikum, Christof Hasse

October 1993 **The VLDB Journal — The International Journal on Very Large Data Bases**, Volume 2 Issue 4**Publisher:** Springer-Verlag New York, Inc.Full text available: [pdf\(2.83 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

Multi-level transactions are a variant of open-nested transactions in which the subtransactions correspond to operations at different levels of a layered system architecture. They allow the exploitation of semantics of high-level operations to increase concurrency. As a consequence, undoing a transaction requires compensation of completed subtransactions. In addition, multi-level recovery methods must take into consideration that high-level operations are not necessarily atomic if multiple pages ...

Keywords: atomicity, complex objects, inter- and intratransaction parallelism, multi-level transactions, performance, persistence, recovery**3 Multi-level recovery**

Gerhard Weikum, Christof Hasse, Peter Broessler, Peter Muth

April 1990 **Proceedings of the ninth ACM SIGACT-SIGMOD-SIGART symposium on Principles of database systems PODS '90****Publisher:** ACM PressFull text available: [pdf\(1.62 MB\)](#) Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Multi-level transactions have received considerable attention as a framework for high-performance concurrency control methods. An inherent property of multi-level transactions is the need for compensating actions, since state-based recovery methods do no longer work correctly for transaction undo. The resulting requirement of operation

logging adds to the complexity of crash recovery. In addition, multi-level recovery algorithms have to take into account that high-level actions are not nece ...

4 MLR: a recovery method for multi-level systems

 David B. Lomet

June 1992 **ACM SIGMOD Record , Proceedings of the 1992 ACM SIGMOD international conference on Management of data SIGMOD '92**, Volume 21 Issue 2

Publisher: ACM Press

Full text available:  pdf(1.10 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

To achieve high concurrency in a database system has meant building a system that copes well with important special cases. Recent work on multi-level systems suggest a systematic path to high concurrency. A multi-level system using locks permits restrictive low level locks of a subtransaction to be replaced with less restrictive high level locks when sub-transactions commit, enhancing concurrency. This is possible because sub-transactions can be undone via high level compensation actions ra ...

5 Undo for anyone, anywhere, anytime

 James O'Brien, Marc Shapiro

September 2004 **Proceedings of the 11th workshop on ACM SIGOPS European workshop: beyond the PC EW11**

Publisher: ACM Press

Full text available:  pdf(71.09 KB)

Additional Information: [full citation](#), [abstract](#), [references](#)

Computer systems are complex and unforgiving. Users need environments more tolerant of errors, allowing them to correct mistakes and explore alternatives. This is the aim of Joyce. Joyce records application usage across the system in such a way that the semantic relationships between individual operations are preserved. Using this information Joyce enables an exploratory model of undo/redo; the user can navigate, visualize, edit and experiment with the history of the system safe in the knowledge ...

6 Research sessions: indexing and tuning: Transaction support for indexed summary views

 Goetz Graefe, Michael Zwilling

June 2004 **Proceedings of the 2004 ACM SIGMOD international conference on Management of data SIGMOD '04**

Publisher: ACM Press

Full text available:  pdf(168.70 KB)

Additional Information: [full citation](#), [abstract](#), [references](#)

Materialized views have become a standard technique for performance improvement in decision support databases and for a variety of monitoring purposes. In order to avoid inconsistencies and thus unpredictable query results, materialized views and their indexes should be maintained immediately within user transaction just like indexes on ordinary tables. Unfortunately, the smaller a materialized view is, the higher the concurrency contention between queries and updates as well as among concurrent ...

7 Reusable hierarchical command objects

 Brad A. Myers, David S. Koscie

April 1996 **Proceedings of the SIGCHI conference on Human factors in computing systems: common ground CHI '96**

Publisher: ACM Press

Full text available:  pdf(1.40 MB)

 Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)
[html\(48.43 KB\)](#)

Keywords: amulet, command objects, redo, toolkits, undo, user interface development environment

8 Contextual Displays: Where do web sites come from?: capturing and interacting with design history

 Scott R. Klemmer, Michael Thomsen, Ethan Phelps-Goodman, Robert Lee, James A. Landay
April 2002 **Proceedings of the SIGCHI conference on Human factors in computing systems: Changing our world, changing ourselves CHI '02**

Publisher: ACM Press

Full text available:  pdf(1.21 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

To form a deep understanding of the present; we need to find and engage history. We present an informal history capture and retrieval mechanism for collaborative, early-stage information design. This history system is implemented in the context of the Designers' Outpost, a wall-scale, tangible interface for collaborative web site design. The interface elements in this history system are designed to be fluid and comfortable for early-phase design. As demonstrated by an informal lab study with six p ...

Keywords: CSCW, activity capture, design rationale, history management, informal interfaces, sketching, tangible UI, web design

9 Recognizing creative needs in user interface design

 Michael Terry, Elizabeth D. Mynatt
October 2002 **Proceedings of the 4th conference on Creativity & cognition C&C '02**

Publisher: ACM Press

Full text available:  pdf(478.46 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The creative process requires experimentation, the exploration of variations, and the continual evaluation of one's progress. While these processes are frequently non-linear and iterative, modern user interfaces do not explicitly support these practices, and instead impose a linear progression through tasks that is a poor fit for creative pursuits. In this paper we use data from three case studies, and draw upon Schön's theory of reflection-in-action to illustrate specific deficiencies in c ...

Keywords: creativity, image manipulation, non-linear interaction model, on-demand previews, open-ended tasks, side view

10 Robust service: Rewind, repair, replay: three R's to dependability

 Aaron B. Brown, David A. Patterson
July 2002 **Proceedings of the 10th workshop on ACM SIGOPS European workshop: beyond the PC EW10**

Publisher: ACM Press

Full text available:  pdf(146.14 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#)

Motivated by the growth of web and infrastructure services and their susceptibility to human operator-related failures, we introduce *system-level undo* as a recovery mechanism designed to improve service dependability. Undo enables system operators to recover from their inevitable mistakes and furthermore enables *retroactive repair* of problems that were not fixed quickly enough to prevent detrimental effects. We present the "three R's", a model of undo that matches the needs of huma ...

11 Variation in element and action: supporting simultaneous development of alternative solutions

 Michael Terry, Elizabeth D. Mynatt, Kumiyo Nakakoji, Yasuhiro Yamamoto
April 2004 **Proceedings of the SIGCHI conference on Human factors in computing systems CHI '04**

Publisher: ACM Press

Full text available:  pdf(409.98 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

The complexity of many problems necessitates creating and exploring multiple, alternative solutions. However, current user interfaces do not cleanly support creating alternatives at a time when they are likely to be discovered: as users interactively modify data. This paper presents Parallel Paths, a novel model of interaction that facilitates generating, manipulating, and comparing alternative solutions. In contrast to existing approaches such as automated history capture tools, Parallel Paths ...

Keywords: experimentation, exploration, interaction models, parallel exploration, what-if tools

12 Using the Web instead of a window system

 James Rice, Adam Farquhar, Philippe Piernot, Thomas Gruber

April 1996 **Proceedings of the SIGCHI conference on Human factors in computing systems: common ground CHI '96**

Publisher: ACM Press

Full text available:  [pdf\(1.68 MB\)](#)  [Additional Information: full citation, references, citings, index terms](#)
[html\(89.08 KB\)](#)

Keywords: CSCW, HTML, HTTP, Internet application, Java, World Wide Web, active document, hypertext, remote user interface

13 Clever renditions: Mnemonic rendering: an image-based approach for exposing hidden changes in dynamic displays

 Anastasia Bezerianos, Pierre Dragicevic, Ravin Balakrishnan

October 2006 **Proceedings of the 19th annual ACM symposium on User interface software and technology UIST '06**

Publisher: ACM Press

Full text available:  [pdf\(1.09 MB\)](#) [Additional Information: full citation, abstract, references, index terms](#)

Managing large amounts of dynamic visual information involves understanding changes happening out of the user's sight. In this paper, we show how current software does not adequately support users in this task, and motivate the need for a more general approach. We propose an image-based storage, visualization, and implicit interaction paradigm called mnemonic rendering that provides better support for handling visual changes. Once implemented on a system, mnemonic rendering techniques can benefit ...

Keywords: change visualization, mnemonic rendering

14 Accepted Demo Papers: MORE: model recovery from visual interfaces for multi-device application design

 Lawrence D. Bergman, Yves Gaeremynck, Tessa Lau

January 2003 **Proceedings of the 8th international conference on Intelligent user interfaces IUI '03**

Publisher: ACM Press

Full text available:  [pdf\(114.35 KB\)](#) [Additional Information: full citation, index terms](#)

Keywords: model recovery, multi-device application design, rule systems

15 Peripheral and ambient displays: Heuristic evaluation of ambient displays

 Jennifer Mankoff, Anind K. Dey, Gary Hsieh, Julie Kientz, Scott Lederer, Morgan Ames

April 2003 **Proceedings of the SIGCHI conference on Human factors in computing systems CHI '03**

Publisher: ACM Press

Full text available: [pdf\(381.69 KB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present a technique for evaluating the usability and effectiveness of ambient displays. Ambient displays are abstract and aesthetic peripheral displays portraying non-critical information on the periphery of a user's attention. Although many innovative displays have been published, little existing work has focused on their evaluation, in part because evaluation of ambient displays is difficult and costly. We adapted a low-cost evaluation technique, heuristic evaluation, for use with ambient d ...

Keywords: ambient displays, heuristic evaluation

16 Multi-level user support through adaptive hypermedia: a highly application-independent help component



L. Miguel Encarna o

January 1997 **Proceedings of the 2nd international conference on Intelligent user interfaces IUI '97**

Publisher: ACM Press

Full text available: [pdf\(1.01 MB\)](#)Additional Information: [full citation](#), [references](#), [citations](#), [index terms](#)

Keywords: adaptive hypermedia help systems, development framework, distributed hypermedia help, graphical user interfaces, help agent, medical and CAD applications, multi-level user support, navigation support, user modeling, user-controlled help adaptation

17 Late breaking results: short papers: Evaluating an ambient display for the home



Sunny Consolvo, Jeffrey Towle

April 2005 **CHI '05 extended abstracts on Human factors in computing systems CHI '05**

Publisher: ACM Press

Full text available: [pdf\(258.60 KB\)](#)Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

We present our experiences with evaluating an ambient display for the home using two different evaluation techniques: the recently proposed 'Heuristic Evaluation of Ambient Displays' and an *in situ*, 3-week long, Wizard of Oz evaluation. We compare the list of usability violations found in the heuristic evaluation to the set of problems that were discovered in the *in situ* evaluation. Overall, the 'Heuristic Evaluation of Ambient Displays' was effective - 75% of known usability probl ...

Keywords: ambient displays, discount usability method, heuristic evaluation, peripheral displays, ubiquitous computing

18 Concurrency and recovery for index trees

David Lomet, Betty Salzberg

August 1997 **The VLDB Journal — The International Journal on Very Large Data Bases**, Volume 6 Issue 3

Publisher: Springer-Verlag New York, Inc.

Full text available: [pdf\(168.36 KB\)](#) Additional Information: [full citation](#), [abstract](#), [citations](#), [index terms](#)

Although many suggestions have been made for concurrency in B \$^+\$-trees, few of these have considered recovery as well. We describe an approach which provides high concurrency while preserving well-formed trees across system crashes. Our approach works for a class of index trees that is a generalization of the B \$^{\{\backslash rm link\}}\$-tree. This class includes some multi-attribute indexes and temporal indexes. Structural changes in an index tree are decomposed into a sequence of atomic actions, each one ...

Keywords: Access methods, B-trees, Concurrency, Indexing, Recovery

19 Efficient transparent application recovery in client-server information systems 

David Lomet, Gerhard Weikum
June 1998 **ACM SIGMOD Record, Proceedings of the 1998 ACM SIGMOD international conference on Management of data SIGMOD '98**, Volume 27 Issue 2

Publisher: ACM Press

Full text available:  pdf(1.62 MB)

Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

Database systems recover persistent data, providing high database availability. However, database applications, typically residing on client or "middle-tier" application-server machines, may lose work because of a server failure. This prevents the masking of server failures from the human user and substantially degrades application availability. This paper aims to enable high application availability with an integrated method for database server recovery and tra ...

20 In search of a user interface reference model 

Gene Lynch, Jon Meads
October 1986 **ACM SIGCHI Bulletin**, Volume 18 Issue 2

Publisher: ACM Press

Full text available:  pdf(666.64 KB)

Additional Information: [full citation](#), [abstract](#), [index terms](#)

The conclusion of the workshop on Planning for User Interface Standards (held at the CHI '85 conference in San Francisco) was that a reference model of human computer interaction should be developed before standards could reasonably be contemplated. That conclusion prompted the workshop on User Interface Reference Models which was held just prior to the CHI '86 conference in Boston. As the title implies we still do not have a reference model, but we have learned a lot in our search. The purpose ...

Results 1 - 20 of 200

Result page: [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [next](#)

The ACM Portal is published by the Association for Computing Machinery. Copyright © 2007 ACM, Inc.

[Terms of Usage](#) [Privacy Policy](#) [Code of Ethics](#) [Contact Us](#)

Useful downloads:  [Adobe Acrobat](#)  [QuickTime](#)  [Windows Media Player](#)  [Real Player](#)